

## ABSTRACT

The present invention relates to a method for estimating the risk for development of carcinoma in an individual. More precisely, for estimating the cancer risk in an individual

5 being exposed to human papilloma virus(es) (HPV). The method comprises

(i) identification of one or more of said HPV or groups thereof in a sample from said human being;

(ii) calculating the amount of HPV of each type or group in the sample and normalising the values to the amount of cells sampled;

10 (iii) estimating the risk for each of the HPV or groups of HPV by comparing each viral titer value from (ii) with type or group specific standard curves for each viral type or group with risk estimation values; and

(iv) estimating the combined risk for carcinoma development for the human being from the individual risk estimation curves of the different viral types.

15

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
15 April 2004 (15.04.2004)

PCT

(10) International Publication Number  
**WO 2004/031417 A1**

- (51) International Patent Classification<sup>7</sup>: **C12Q 1/70**
- (21) International Application Number:  
PCT/SE2003/001530
- (22) International Filing Date: 1 October 2003 (01.10.2003)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
0202896-7 1 October 2002 (01.10.2002) SE
- (71) Applicant (*for all designated States except US*): QUAN-  
TOVIR AB [SE/SE]; c/o JCH-Gruppen AB, Box 2021,  
S-750 02 Uppsala (SE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): GYLLENSTEN,  
Ulf [SE/SE]; Malma Backe 7H, S-756 47 Uppsala (SE).  
MOBERG, Martin [SE/SE]; Luthagsplanaden 34A,  
S-752 31 Uppsala (SE).
- (74) Agent: DR LUDWIG BRANN PATENTBYRÅ AB; Box  
171 92, Maria Skolgata 83, S-104 62 Stockholm (SE).
- (81) Designated States (*national*): AE, AG, AL, AM, AT (util-  
ity model), AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA,  
CH, CN, CO, CR, CU, CZ (utility model), CZ, DE (util-  
ity model), DE, DK (utility model), DK, DM, DZ, EC, EE  
(utility model), EE, EG, ES, FI (utility model), FI, GB, GD,  
GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,  
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,  
MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,  
SC, SD, SE, SG, SK (utility model), SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),  
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,  
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO,  
SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM,  
GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:  
— with international search report
- For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.*

(54) Title: METHOD FOR ESTIMATING THE RISK OF CARCINOMA DEVELOPMENT

(57) **Abstract:** The present invention relates to a method for estimating the risk for development of carcinoma in an individual. More precisely, for estimating the cancer risk in an individual being exposed to human papilloma virus(es) (HPV). The method comprises (i) identification of one or more of said HPV or groups thereof in a sample from said human being; (ii) calculating the amount of HPV of each type or group in the sample and normalising the values to the amount of cells sampled; (iii) estimating the risk for each of the HPV or groups of HPV by comparing each viral titer value from (ii) with type or group specific standard curves for each viral type or group with risk estimation values; and (iv) estimating the combined risk for carcinoma development for the human being from the individual risk estimation curves of the different viral types.

WO 2004/031417 A1